EXHIBIT LL

HEADLINE:
The Transformative Operating System Called IOS

SUMMARY:
For 25 years, Cisco IOS software has made it easier for devices and the people that use them to connect and collaborate. It powers routers, switches, and the Internet, and helped create an industry—and it's not done yet.

PULL QUOTE:
"With IOS, Cisco was creating one from many, and that's something we still do today."
Joel Bion, SVP, Research and Advanced Development

MAIN TEXT:
It is the world's leading network system software, running on an estimated 80 platforms. It is the Internet's primary circulatory system. It is Cisco IOS software, which powers the company's routers and switches.

As Cisco celebrates its 25th anniversary, it's necessary to recognize the role of IOS in the company's success. Thanks to Internetwork Operating System, its original name, Cisco's routers were an instant hit when they were introduced in 1986. Within a year, Cisco was selling about $750,000 worth of routers every month. Twenty five years later, at least 70 percent of Cisco's revenue comes from products that use Cisco IOS software.

The remarkable software had a humble beginning. For several years after the company began, it was known just as "the software"—no name, just "the software"—that ran Cisco's routers.

Its eventual name captured the new company's purpose: to create routers that enabled different computers and networks to communicate. (Back when Cisco started in the mid 1980s, there was an alphabet soup of proprietary networks, including DECnet, AppleTalk, Apollo Domain, IBM SNA, and TCP/IP.)

Crucial Early Decisions Led to Success
Several early decisions about how to build IOS gave it staying power and made Cisco a standout, say two of Cisco's engineering leaders: Joel Bion, SVP of Research and Advanced Development, who leads the Network Software and Service Technology Group (NSSTG) and joined Cisco 20 years ago; and Kirk Lougheed, a member of Cisco's founding team, its first engineer, the designer of IOS, and a Cisco Fellow.

First, Cisco built the IOS code base so that it was easy and quick to make it work on multiple platforms and add functions that customers desired. That let Cisco move faster than competitors.

"As we were deploying IOS in a customer's account, we'd discover some additional thing they wanted, and turn around and give it to them days later," says Bion.

Another key decision was to have IOS support bridging—at the time a common way to link computers and networks. While bridging and routing each have advantages, the manner in which IOS routes and forwards traffic solved many of the problems with bridging that caused corporate networks to crash, says Bion, and took customers away from companies that just built bridges.

Then, as now, Cisco had a very customer-centric view of the world. It came naturally to Cisco's founding team, who worked in IT support at Stanford University.

"We were very interested in whatever the customer wanted to pay for," says Lougheed. "If a customer needed something, we would figure out how to do it and then how to do it for others. We were very opportunistic."

Providing Customers with Fleet of "Trains" Creates Maintenance Challenges
Cisco's customer-driven practice has been a blessing but also a bit of a curse for IOS over the years.
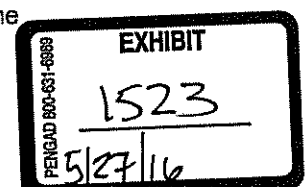
The approach is a blessing because Cisco can and does quickly build and enhance versions (or trains, as they are called) of IOS for different markets. Keeping track of IOS trains make you feel as if you're standing in New York City's Grand Central Station. There is the IOS mainline train, the T train (which has the latest technology), the S train for service providers, the E train for enterprise customers, and the B train for IP broadband. Then there is IOS XE for ASR 1000 routers, and IOS XR for ASR 9000 and other carrier-grade routers. A recent newcomer to the station is NX-OS—the operating system for the Nexus 7000 and the virtualized data center that is based on IOS.

The curse? While IOS makes it easy to create a train, it's tough and costly for Cisco to maintain all those custom-built locomotives, says Lougheed.

The "componentization" of IOS aims to fix that. The initiative, begun in 2008, is about creating standardized sets of source code that can be shared among the different versions of IOS. It lets Cisco add functionality and fix bugs faster across platforms, while improving the quality and capability of IOS. NSSTG won a 2009 Pioneer Award in the category of productivity improvement for its IOS Component Framework.

Future plans for IOS include hosting it on top of a Linux kernel so that it can accommodate open-source and third-party software.

"If we don't have to write everything ourselves, we can move much more quickly," comments Lougheed.

Transforming an Industry
One of IOS's biggest legacies is establishing the industry standard for how people interface with routers and switches—known as the command language interface, or CLI.

"Anyone who goes to configure a competitor's product feels very much at home," Bion says.

IOS is also part of Cisco's tradition of transformational thinking.

"The idea that all communication can be supported by homogeneous, lower-level infrastructure is so common today, but it was radical thinking 20 years ago, and it broke the paradigm of how IT organizations operate," Bion points out.

"With IOS, Cisco was creating one from many, and that's something we still do today," he adds. "Now we're integrating data, voice, and video all on the same network, and helping customers reap the benefits."

SIDEBAR:
[Insert screen cap of Kirk Lougheed video]
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△ DEFENDANT △

United States District Court
Northern District of California

Case No.   **14-cv-05344-BLF**

Case Title   **Cisco Systems v. Arista Networks**

Exhibit No.   **5464**

Date Entered   _____

Richard W. Wieking, Clerk

By: _____, Deputy Clerk